Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Claims 1-10 (canceled).

11. (New) A HF-chondroosteomodulin (COM) polypeptide or derivative thereof having the amino acid sequence SEQ ID NO. 1

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  1  ELTEAQRRGL QVALEEFHKH PPVQWAFQET SVESAVDTPF PAGIFVRLEF
 51  KLQQTSCRKR DWKKPECKVR PNGRKRKCLA CIKLGSEDKV LGRLVHCPIE
101  TQVLREAEEH QETQCLRVQR AGEDPHSFYF PGQF
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provided that,

- the derivatives have a length of not more than 150 amino acids;
- the derivatives have a sequence identity with COM of more than 80%;
- the derivatives will activate the receptor GORI-28 in a functional test with the FLIPR system, so that a receptor activity is measured which is at least 80% of the receptor activity triggered by COM under the same conditions.

12. (New) The COM polypeptide or derivative of claim 11, selected from the group consisting of: amidated, acetylated, phosphorylated and glycosylated derivatives; or

having a pyroglutamate at the N terminus, in which the amino acid sequence of the derivatives is changed by amino acid substitutions, insertions or deletions.

13. (New) The COM polypeptide or derivative thereof of claim 11, further comprising a GORI-28 receptor.

14. (New) A method of screening a library with a COM polypeptide or derivative thereof and a GORI-28 receptor as a ligand-receptor system comprising, contacting peptide libraries or other substance libraries with said ligand-receptor system.

15. (New) A method of preparing the COM polypeptide or derivative thereof of claim 11, comprising:

a) preparing said polypeptide or derivative thereof by cell cultures and purifying by chromatography;

b) isolating said polypeptide or derivative thereof from human blood by chromatography;

or,

c) preparing said polypeptide or derivative thereof by chemical or biotechnological synthesis, and purifying by chromatography.

16. (New) A pharmaceutical composition comprising the COM polypeptide or derivative thereof of claim 11, optionally in addition to usual adjuvants and additives.

17. (New) The pharmaceutical composition of claim 16, wherein said composition is a lyophilized form taken up with mannitol.

18. (New) The pharmaceutical composition of claim 17, comprising a galenic dosage form containing an amount of from 300 μg to 30 mg of purified COM per therapy unit in sterile ampoules for dissolution in physiological saline and/or infusion solutions for repeated single injection and/or permanent infusion.

19. (New) A method of treating a disease in a human comprising, administering an effective amount of the COM polypeptide or derivative thereof of claim 16, wherein said disease is selected from the group consisting of: diseases of the parathyroid gland; degenerative bone diseases; bone fractures in the phase of healing; cartilage diseases; connective tissue diseases; rheumatism; arthrosis; obesity; diabetes type 2; diseases of the immune system; diseases subjected to therapy influencing the migration of stem cells, including chemotherapy; renal diseases accompanied by disorders in electrolyte excretion,; and skin diseases.

20. (New) The method of claim 19, wherein said disease is selected from the group consisting of: hypoparathyroidism, osteoporosis, acute renal insufficiency, phosphate and calcium excretion disorders, psoriasis, eczema and acne.

21. (New) A method of diagnosing a disease in a human with the COM polypeptide or derivative thereof of any one of claims 11 and 16 comprising:

a) preparing specific antibodies against said polypeptide or derivative thereof;

b) contacting said antibodies with a tissue sample from said human;

and,

c) measuring the concentration of said COM polypeptide or derivative thereof by immune tests or by quantitative mass spectrometry.

22. (New) The method of claim 21, wherein said pharmaceutical composition is in the form of a galenic dosage.

23. (New) The method of claim 22, wherein said pharmaceutical composition is a lyophilizate galenic dosage.

24. (New) The method of claim 23, wherein said galenic dosage form, comprises an amount of from 300 μg to 30 mg of pureified COM polypeptide or derivative thereof per therapy unit in sterile ampoules for dissolution in physiological saline and/or infusion solutions for the repeated single injection and/or permanent infusion.

25. (New) The COM polypeptide or derivative of claim 11, wherein said receptor activity triggered by the COM polypeptode or derivative thereof is greater than the receptor activity triggered by COM.

26. (New) An immunoassay kit comprising, specific antibodies against said polypeptide or derivative thereof of any one of claims 11 and 16.